Gerontologists at Tufts University put residents of a chronic-care hospital, almost all of whom were over the age of ninety, on a weight-training program. Did this sudden introduction to exercise exhaust or kill these frail and fragile people? Hardly. Eight weeks later, wasted muscles had grown stronger by 300 percent, and both balance and coordination were much improved. Subjects who had needed assistance to walk could get up by themselves and go to the bathroom in the middle of the night.

Those and many other studies are clearly showing that the prevailing belief that we should "take it easy" as we age needs to be reconsidered.

Authorities believe that to a far greater extent than most people realize, muscle is responsible for the vitality of your body. A high muscle-to-fat ratio, they point out, causes your metabolic rate—the rate at which you burn calories—to increase. This means you can more easily burn body fat and alter your body composition even further in favor of beneficial muscle tissue. When your metabolic rate slows down, on the other hand, it becomes much more difficult to lose weigt and far easier to pack on the fat. Building muscle automatically reverses this tendency, making it easier to stay lean.

The reason is that muscle burns more calories than fat, even at rest. A pound of muscle burns roughly 15 more calories a day than a pound of fat. If you lose ten pounds of fat and gain ten pounds of muscle, you would thereafter burn 150 more calories per day without increasing your exercise level. Over the course of a year, this would translate into a difference of twelve pounds of body weight.

In actuality, the difference is even greater, because when people have more muscle and less fat, they want to exercise more and find it easier to do.

From the book, "Healthy at 100" by John Robbins.